

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1. (Canceled)

Claim 2. (Currently Amended) The ~~copolymer~~ dewaxing additive according to Claim ~~[[1]]~~ 11, wherein the proportion by weight of the monomer A in the total weight of the copolymer is 0.1-70%.

Claim 3. (Currently Amended) The ~~copolymer~~ dewaxing additive according to Claim ~~[[1]]~~ 11, wherein at least 50% of the monomers B contain alkyl radicals R<sup>8</sup> of chain length greater than or equal to C<sub>16</sub>.

Claim 4. (Currently Amended) The ~~copolymer~~ dewaxing additive according to Claim ~~[[1]]~~ 11, wherein the monomers of formula A consist of one or more monomers selected from the group consisting of styrene, butyl methacrylate, methyl methacrylate, ~~[[or]]~~ 2-ethylhexyl methacrylate and mixtures thereof.

Claim 5. (Currently Amended) The dewaxing additive according to Claim 11 A ~~polymer mixture comprising one or more copolymers according to Claim 1, further comprising and one or more further~~ homo- or copolymers which are polyalkyl methacrylates and have alkyl substituents of chain length C<sub>1</sub>-C<sub>24</sub>.

Claim 6. (Currently Amended) The dewaxing additive ~~The polymer mixture~~ according to Claim 5, wherein the ~~further~~ homo- or copolymers which are polyalkyl methacrylates have alkyl substituents of chain length C<sub>12</sub>-C<sub>18</sub>.

Claim 7. (Currently Amended) The dewaxing additive ~~The polymer mixture~~ according to Claim 5, wherein ~~[[the]]~~ a ratio of the copolymers and the ~~further~~ homo- or copolymers which are polyalkyl methacrylates is 1:20 to 20:1.

Claim 8. (Currently Amended) The dewaxing additive ~~The polymer mixture~~ according to Claim 5, wherein the ~~further~~ homo- or copolymer is a polyalkyl methacrylate which contains up to 20% by weight of C<sub>1</sub>-C<sub>10</sub> methacrylates.

Claim 9. (Canceled)

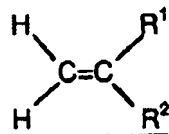
Claim 10. (Canceled)

Claim 11. (Currently Amended) A dewaxing additive, comprising:  
~~the copolymer according to Claim 1~~

(i) in polymerized form, the following free-radically polymerizable monomers of

Formulae A and B:

Formula A:



wherein

R<sup>1</sup> = H or CH<sub>3</sub>,

R<sup>2</sup> = phenyl, benzyl, naphthyl, anthranyl, phenanthryl, N-pyrrolidonyl, N-imidazolyl,

2-pyridyl, 4-pyridyl or an alkyl-substituted aromatic substituent or

R<sup>2</sup> = COOR<sup>3</sup> where R<sup>3</sup> = H or R<sup>3</sup> is a linear or branched alkyl radical of C<sub>1</sub>-C<sub>10</sub>

or

R<sup>3</sup> is a heteroatom-substituted radical  $-(CH_2)_nX$  where  $X = OH$  or  $X = N(R^4)_2$

wherein  $n = 1-10$  and  $R^4$  is in each case independently  $H$  or  $R^4 = C_1-C_4$ -alkyl

or

R<sup>3</sup> is  $-(CH_2CH_2O)_mR^5$  wherein  $m = 1-90$  and  $R^5 = H$  or  $R^5 = C_1-C_{18}$  or  $R^3$  is a benzyl,

phenyl or cyclohexyl radical

or

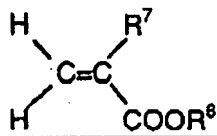
R<sup>2</sup> =  $CONHR^6$  wherein  $R^6 = H$  or  $R^6$  is a linear or branched alkyl radical of  $C_1-C_{10}$

or

R<sup>6</sup> is a heteroatom-substituted radical  $-(CH_2)_nX$  where  $X = OH$  or  $X = N(R^4)_2$

wherein  $n = 1-10$  and  $R^4$  is in each case independently  $H$  or  $R^4 = C_1-C_4$ -alkyl;

Formula B:



wherein  $R^7 = H$  or  $CH_3$  and

R<sup>8</sup> radical = linear or branched alkyl radicals of  $C_{12}-C_{40}$ , and,

optionally further (ii) a customary dewaxing additive additives.

Claim 12. (Currently Amended) The dewaxing additive according to Claim 11,  
~~wherein the dewaxing additive~~ which is a solution of the copolymer in an oil of the paraffinic  
or naphthenic type, or in an organic solvent.

Claim 13. (Previously Presented) The dewaxing additive according to Claim 12,  
wherein the organic solvent is toluene, xylene and/or naphtha.

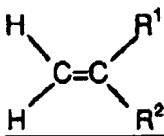
Claim 14. (Currently Amended) A method for solvent deparaffinization of paraffinic mineral oil distillates, comprising:

adding a dewaxing additive ~~according to Claim 11~~ to said paraffinic mineral oil distillates, to obtain paraffin crystals; and

separating said paraffin crystals; a dewaxing process

wherein said dewaxing additive comprises in polymerized form the following free-radically polymerizable monomers of Formulae A and B:

Formula A:



wherein

R<sup>1</sup> = H or CH<sub>3</sub>,

R<sup>2</sup> = phenyl, benzyl, naphthyl, anthranyl, phenanthryl, N-pyrrolidonyl, N-imidazolyl,

2-pyridyl, 4-pyridyl or an alkyl-substituted aromatic substituent or

R<sup>2</sup> = COOR<sup>3</sup> where R<sup>3</sup> = H or R<sup>3</sup> is a linear or branched alkyl radical of C<sub>1</sub>-C<sub>10</sub>

or

R<sup>3</sup> is a heteroatom-substituted radical -(CH<sub>2</sub>)<sub>n</sub>X where X = OH or X = N(R<sup>4</sup>)<sub>2</sub>

wherein n = 1-10 and R<sup>4</sup> is in each case independently H or R<sup>4</sup> = C<sub>1</sub>-C<sub>4</sub>-alkyl

or

R<sup>3</sup> is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub>R<sup>5</sup> wherein m = 1-90 and R<sup>5</sup> = H or R<sup>5</sup> = C<sub>1</sub>-C<sub>18</sub> or R<sup>3</sup> is a benzyl,

phenyl or cyclohexyl radical

or

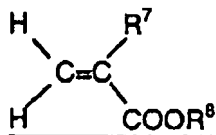
R<sup>2</sup> = CONHR<sup>6</sup> wherein R<sup>6</sup> = H or R<sup>6</sup> is a linear or branched alkyl radical of C<sub>1</sub>-C<sub>10</sub>

or

R<sup>6</sup> is a heteroatom-substituted radical  $-(CH_2)_nX$  where  $X = OH$  or  $X = N(R^4)_2$

wherein  $n = 1-10$  and  $R^4$  is in each case independently  $H$  or  $R^4 = C_1-C_4$ -alkyl;

Formula B:



wherein  $R^7 = H$  or  $CH_3$ , and

$R^8$  radical = linear or branched alkyl radicals of  $C_{12}-C_{40}$ , and,

optionally further customary dewaxing additives.

Claim 15. (Currently Amended) The method according to Claim 14, wherein the addition rate of the copolymer ~~in the dewaxing process~~ is 0.005-0.5%.

Claim 16-20. (Cancelled)

Claim 21. (New) The dewaxing additive according to Claim 11, comprising:  
a copolymer of behenyl acrylate and styrene.

Claim 22. (New) The dewaxing additive according to Claim 11, comprising:  
a copolymer of behenyl acrylate and at least one member selected from the group consisting of n-butyl methacrylate, isononyl methacrylate, and benzyl methacrylate.

Claim 23. (New) The method according to Claim 14, comprising:  
cooling said paraffinic mineral oil distillates to below  $-20^\circ C$ , thereby crystallizing said paraffin.

Claim 24. (New) The method according to Claim 14, comprising:  
adding a solvent.

Claim 25. (New) The method according to Claim 14, comprising:  
adding a solvent to said paraffinic mineral oil distillates, to obtain a solvent-paraffinic mineral oil mixture;  
cooling the solvent-paraffinic mineral oil mixture thereby forming paraffin crystals which form a filter cake which is porous and permeable to a solvent-mineral oil mixture; and  
separating said paraffin crystals from said solvent-mineral oil mixture by filtration.

Claim 26. (New) The method according to Claim 25, wherein said paraffin crystals grow epitaxially.

Claim 27. (New) The method according to Claim 14, comprising:  
adding said dewaxing additive to said paraffinic mineral oil distillates at a temperature above the cloud point of said mineral oil.

Claim 28. (New) The dewaxing additive according to Claim 11, consisting of:  
a copolymer of behenyl acrylate and styrene.

Claim 29. (New) The method according to Claim 14, comprising:  
adding said dewaxing additive to said paraffinic mineral oil distillates, to obtain paraffin crystals;  
separating said paraffin crystals; and

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obtaining a deparaffinized mineral oil distillates.

Claim 30. (New) The dewaxing additive of Claim 11 which is suitable for solvent deparaffinization of paraffinic mineral oil distillates and which influences the size and shape of paraffin crystals obtained from the paraffinic mineral oil.



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Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

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➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
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(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

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